

IN THE SPECIFICATION:

At paragraph 0005:

Removing the machining assembly from the milling machine and re-installing separate components for each set of compressor ~~turbine~~ blades is a relatively labor intensive process since each holding fixture must be installed on the milling machine prior to cutting the seal wire groove in the next set of blades. Additionally, an increased quantity of milling cutters are used to perform the test cuts and to machine the seal wire groove. Since the method for cutting a seal wire groove is relatively complex, at least one known manufacturer machines a plurality of seal grooves without changing the holding fixture to facilitate reducing costs of fabrication. Accordingly, the manufacturer may often produce a quantity of blades that is in excess of the quantity desired by the customer.

At paragraph 0010:

Figure 2 is a cross-sectional view of compressor 14 shown in Figure 1; Figure 1;

At paragraph 0014:

Figure 6 is a perspective view of a second set of retainers that may be used with the machining assembly shown in Figure 4; Figure 4; and

At paragraph 0016:

As used herein, the terms “manufacture” and “manufacturing” may include any manufacturing process. For example, manufacturing processes may include grinding, finishing, polishing, cutting, machining, inspecting, and/or casting. The above examples are intended as exemplary only, and thus are not intended to limit in any way the definition and/or meaning of the terms “manufacture” and “manufacturing”. In addition, as used herein

the term “component” may include any object to which a manufacturing process is applied. Furthermore, although the invention is described herein in association with a gas turbine engine, and more specifically for use with a compressor ~~turbine~~ blade for a gas turbine engine, it should be understood that the present invention may be applicable to any component and/or any manufacturing process. Accordingly, practice of the present invention is not limited to the manufacture of compressor ~~turbine~~ blades or other components of gas turbine engines.

At paragraph 0025:

Extending longitudinally from upper surface 119 of blade platform 120, and in a direction opposite to that of base member 108, is an airfoil portion 122, which is adapted to contact the gases that pass through engine 10. Platform 120 also includes a pair of axially-spaced lower surfaces 132, 134 each having a respective concave recess ~~138, 140~~ 116, 118 respectively, that is axially aligned with corresponding disk ~~grooves~~ grooves 100, 102 to receive and to engage with respective seal wires 104, 106. Concave recesses ~~138, 140~~ 116, 118 are configured to facilitate surface-to-surface contact between blade platform 120 and seal wires 104, 106, rather than line contact therebetween, thereby reducing the localized compressive stresses to which forward and aft blade platform lower faces 132, 134 are subjected during engine operation. Blade platform 120 terminates at a forward axial extension 128 and at an aft axial extension 130 that each overlie a respective forward and aft radial flange 96, 98 carried by rotor disk 60.

At paragraph 0026:

Seal wires 104, 106 contact the respective platform lower faces ~~132, 134???~~ 132, 134, and also contact a portion of respective seal wire grooves 100, 102 formed in rotor disk 60. Thus, by virtue of the dual points of contact provided by seal wires 104, 106, with the blade platform and with the rotor disk, a substantially continuous gas leakage flow path that would

otherwise exist by virtue of the gap defined between blade base member 108 and rotor circumferential slot 84 is effectively blocked and closed when seal wires 104, 106 are in contact with each of those respective surfaces.

At paragraph 0027:

Figure 4 is a machining assembly 200 that may be used to machine wire seal grooves in a rotor blade such as blade 64 (shown in Figure 3). Figure 5 is a perspective view of a portion of machining assembly 200. Machining assembly 200 includes a base portion 202, a body portion 204 coupled to base portion 202, and a first set of retainers 206 slidably coupled to base portion 202. Body portion 204 also includes a locking mechanism 207 that is coupled to body portion 204, a first opening 208, and a second opening 209. Locking mechanism 208 includes a first end 210, a second end 212, and a central portion 214 that couples first end 210 to second end 212. Locking mechanism 207 also includes a handle 216 coupled to second end 212.

At paragraph 0030:

Figure 6 is a perspective view of a portion of machining assembly 200 (shown in Figure 4) including a second set of retainers 300 that are configured to secure a second exemplary blade 338. Retainers 300 are substantially similar to retainers 206, (shown in Figure 5) and components of retainers 206 that are identical to components of retainers 300 are identified in Figure 6 using the same reference numerals used in Figure 5.

At paragraph 0031:

Retainers 300 include an upper portion 320 and a lower portion 322. Upper portion 320 includes a first end 224, a second end 226, and a locking mechanism 228. First end 224 has a cross-sectional profile 230 defined by a plurality of external surfaces 232. In the exemplary embodiment, first end 224 has a substantially rectangular cross-sectional

geometric profile. Second end 226 includes a retaining portion 334. In the exemplary embodiment, retaining portion 334 has cross-sectional profile that is substantially equivalent to a cross-sectional profile of a blade upper surface 336.

At paragraph 0032:

Lower portion 222 portion 322 includes a first end 240 and a second end 242. First end 240 and second end 242 each have a cross-sectional profile 244 defined by a plurality of external surfaces 246. In the exemplary embodiment, first end 240 and second end 242 each have a substantially T-shaped cross-sectional profile 244. Lower portion 222 also includes a lower second portion 248 extending from second end 242. Lower second portion 248 includes a retaining portion 350 that has a cross-sectional profile that is substantially equivalent to a cross-sectional profile of a blade lower surface 352.

At paragraph 0034:

In operation, machining assembly 200 is coupled to a table 408 of milling machine 402. A set of retainers is selected by an operator depending on the rotor blade to be machined. For example, to machine a seal wire groove in ~~blade 50-blade 64~~, mounted on ~~rotor-dise rotor disk~~ 56, an operator may select retainers 206. To machine a seal wire on a second blade, such as blade 64 mounted on ~~rotor-dise rotor disk~~ 60, an operator may select retainers 300. It should be realized that each set of blades mounted on each individual rotor, have a specific set of retainers sized to hold the respective blade in a substantially fixed position while machining the seal wire groove in the blades.

At paragraph 0036:

Milling machine 402 is then energized, thus causing grinding wheel 404 to rotate and cooling liquid to flow from milling machine 402 to grinding wheel 404. The operator repositions the grinding wheel such that at least one seal wire groove is machined into a base

of the rotor blade. To machine a second blade from the same ~~rotor-dise~~ rotor disk as the first blade, the operator depresses locking mechanism 228 and slides the locking mechanism in a second direction 412, opposite first direction 410 until upper portion 220 is removed from body 204. The operator then positions the second rotor blade adjacent the lower 222 and inserts upper portion 220 into opening 208 until locking mechanism 228 is coupled to body 204.

At paragraph 0037:

To machine a rotor blade on a second-~~rotor-dise~~ rotor disk, different than the first ~~rotor-dise~~ rotor disk, an operator selects a second appropriately sized set of retainers based on the rotor blades to be machined. In one embodiment, the operator selects retainers 300. Lower portion 322 is then inserted into opening 209 of body portion 204. After lower portion 322 is inserted into body portion 204, locking mechanism 208 is moved in a first direction 410 until lower portion 322 is substantially secured within body portion 204. A rotor blade having a lower surface and an upper surface substantially similar to the respective lower portion retaining surface 350 and upper portion retaining surface 334 is positioned adjacent lower portion 322. Upper portion first end 224 is then inserted into opening 208 of machining assembly 200 until locking mechanism 228 is coupled to machining assembly 200 thus securing the rotor blade between lower portion 322 and upper portion 324 portion 320.